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Al in th: proingrapi you gaze
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> INDE.I:


THE four pleasant years of our college life, so full of unique and never-to-be-forgotten experiences, are rapidly gliding away, and the finger of time now designates the Class of ' 88 as the one destined to give to the world the eighteenth volume of the "Index" of the Massachusetts Agricultural College. We do not claim great literary excellence for our book; but it is our hope that its perusal may give entertainment to those into whose hands it may fall.

Since the publication of the previous edition of the "Index," the group of divinities entrusted with the care of the College has been considerably rearranged. At the close of the summer term of ' 86 , President Greenough tendered to the Trustees his resignation from the service of the College. His place is occupied by Professor Goodell, who is meeting the needs of the institution with excellent judgment.

Major Alvord, formerly connected with this institution as instructor in military science and tactics, now fills the chair vacated at the close of last year by Dr. Miles. Mr. Alvord is vigorously at work making many and necessary changes in the stock and equipments of the farm, and in the cultivation of the land. A new and capacious corn-crib has been erected directly west of, and in contact with, the farm barn. The large tract of swamp land in the valley west of the "campus" has been drained and brought into a tillable condition, and the assortment of live stock has been much improved by the elimination of the poorer animals and the purchase of better. The College has been presented with a valuable Jersey bull, "Edithson" (8948), by Mr. Lawson Valentine, of Houghton Farm, New York. "Edithson" was sired by "Ramapo," fourth son of "Eurotas" (2454). "Eurotas" gave 778 pounds of butter in eleven months. The dam of "Edithson" was "Lass Edith," which gave sixteen pounds and fifteen ounces of butter in seven days. A fine young.

## ぶクE゙い。

Guernsey hull was a gift from Mr．Merriam，of Westom．The land， implements，etce，of the tiam have been carchally inventoried．

Profensor Atoorn is endeatoring to give us a comprehensive and intellgent course in agriculture：but this subject is one which can be but poorly and ineompletely mastered in the class－room．where we spend st mueh of our time in the weighing of theories and the adoption of conchuions．The Massachusett－Agricultural College cannot make a firmer of a man，－nor can any other college，－but it can give him a liberal，set scientific and practical education，by virtue of which he may become a successful farmer in after years，and an honor to the commm－ nity．still，it must be that many who graduate from this College shall not become fiarmers．

The Iforticultural Department has completed another successful year under the careful supervision and direction of Professor Maysard．The oblice of forman is held by Mr．Green，a graduate of the College，in place of Mr．Kisgmas，who recently accepted another position，One of the latest acquisitions of this department is a young alligator，which revel among the gold－fish in the aquatic room of the planthouse．

Wee are glatd that the professor of Zoülogy and some of the kindred sefences is now a regularly－installed member of the Facnlty，instead on a instor from some other college，as he formerly has been．The insti－ tution has been so fortunate as to secure the services of Professor Fer－ Aald，late of the Maine State College，at Orono，as instructor in these branche of science．We hope that the cabinets of natural specimens belonging to the Massachusetts Agricultural College，which were so scriously disarranged at the burning of the old South Dormitory，will soon be rearranged in their proper form．

The Cadets，under the supervision of Lientenant Sage，are pursu－ inn the uatal course of stady and drill．There are but two companies in the battalion as organized this year．The mortar drilts have been rembered the more interesting becamse the Cadets have had opportunity to the the montars in actual practice，throwing the shells down into the paaturen weat of the redoubt．New butts have been constructed at the rotle range，and the facilities for target practice are excellent．

Inder the direction of Profesore Wishangotos，the old Laboratory has heen remodeled，wo that very perfect opportunity is offered the sth－ denth for individual，practical work．

## INDEN:

The new Experiment Station building has been occupied for some time by Professor Goessman and his assistants. The plot of land east of the station has been broken in and underdrained.

Professor Warner has piloted us through the mazes of Trigonometry and Civil Engineering, and has brought us to a state of equilibrium in the midst of our course in Mechanics. The study of Calculus, which comes in the Senior year, has been made optional, and several other changes have been made in the College curriculum.

Dr. Walker, formerly at South Amherst, is a welcome addition to the Faculty, assuming, at the commencement of the year, the office of Instructor in Rhetoric and Psychology. Dr. Walker also occupies the pulpit on the Sabbath.

Our students are considerably interested in Athletics, and would be more so if the College would expend the necessary few hundred dollars in the equipment of a gymnasium in the drill-hall or elsewhere. It seems as if this boon ought not to be denied the students. The football team has done fair work this fall, winning each of the two match games played.

We welcome the Class of '90 as one of the largest that has entered college for several years. Let our young friends realize at the beginning of their course what they are here for; and may they improve to the fullest extent the opportunities which shall develop for them while they are here. The four years spent in college, form one of the most cogent formative periods of a man's life, and one may often attribute his successes in later life,- or his failure,--to habits contracted while he sojourned among the halls of his Alma Mater.

Classmates: Having added our due to the line of "Indexes," we fall back into our places to plod onward toward our graduation day. If the book pleases you, we are satisfied; if not, let it become a forgotten thing of the past, without too harsh comment. At all events, we wash the ink from our fingers, and thank our stars that the trial is over.

'87.

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## *’®ス *

D)GNHFIEn Seniors at last: Our green Freshman, bold and reckless Sophomore, and lazy Junior stages are past.

As we look over the years that are gone, we see that numerous changes have taken place in the circumstances of the College. The old buildings have been replaced by new and better ones. Members of the Faculty have come and gone. The different departments have been more fully equipped. Each move has heen but a step onward. Never in the history of the College has the future looked so promising. Now, as the sun heams brightly above the horizon, it is our lot. classmates, to bid these pleasant scenes adienforever.

In looking back and regretting, let us not forget to look forward and hope. As we cast from our shoulders the mantle of college life, let the noble seed that has been implanted in us never lack for nourishment. To us is given the task of so caring for it that it may bring forth thirty, sixty, or an hundred-fold.

We have now but found how to study. We have only laid the foundation for work. While we may see where golden opportunities hase been fost, we should use such losses as grides on our future path. The best day is when we pass out of society's praises into its uses. Then should we each ask, Am I groing into the world to serve or be served by it? "Idleness is the devil's workshop." May not one of us be an immate. Nothing is truer than llood's lines:-
" Fival is wrought for want of thought, As well as want of heart."

A we hid grood-hye to our friends, let us cherish many pleasant reminimencer. May, they assist us when in the varied walks of life, in attaining the highest in whaterer we undertake. A high ideal is uselens, howewer, unlens there is high endeavor. Dr. Asomber "isely remarheif to un, "Voung fentlemen, il anything turns up to yon, yonve got to turn it "p." Von mum haid your ladder from the earth to the vaulted skies, and mant momet it round by romad.
c.

## INDEN.

$\therefore$ Junior Class :
$\qquad$ '88

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## NVDEN:

*' 88 *

ANOTIER interesting period of our college life has become a feature of the past, and a new one has been ushered in. Before the spell of its influence be broken, and our recollections of it become somewhat clouded, we will endeavor to give to the public a brief history of the incidents that have marked its progress.

During the winter term our mathematical talent was employed in assisting Prof. Warser to verify his work on mensuration, a fact which ought greatly to facilitate its reception into general favor. In connection with our course in civil engineering, we surveyed boundless fields, ascertained the heights of distant mountains, raised imaginary embankments, made corresponding excavations, and learned the art of laying drains and sewers.

Our brief but comprehensive study of physiology, so awakened us to a knowledge of ourselves, and so impressed us with the thought of the possibilities attainable to the human mind, that the latent forces which, it had been surmised might perhaps exist in some of our physiological units. became actual, and have since developed so rapidly that we no longer fear the power of the oppressor.
some of us had the privilege of trying for the Clark Prize. offered to the one who should pass the best competitive examination upon the subject. Athough but one could come off victorious, still we feel that the experience gained and the benefits received fully compensate us for all our troulbe.

While on the excursion to the Bay State Fair in Boston, we, in company with Prof. Fikxaln, visited Harvard College, with the intention of inspecting the Agassi\% Nuscum, where we saw much that was of interest to us in comnection with our study of zoïngy. Some of us also arailed ourselven of the opportunity, prenented through the kindness of Prof. Maysabl, to visit nome of the extensive market gardens in Arlington, a trip ly which we gatined much useful information.

## INDEX.

We have lost but one man since our last communication, leaving us twenty for our Junior year.
'SS has entered zealously into athletic sports the past season, as the foot-ball records will show. If, unlike our immediate predecessors, we do not figure prominently as stockholders in some grand "South Sea Bubble," the failure is not due to a poverty of energy and public spirit, but to the fact that we believe in counting the cost before building the tower.

Classmates, our work at present is associated with the College. and is for its interest and our own; but we should so strive that when, in after years, we look back upon the portion of our lives passed here, we can say that the discipline then received was not in vain. Remember that each day brings new and more arduous duties, which require prompt attention. Our college life, at best, will soon be over, and we shall no longer enjoy our present advantages. How essential, then, that we improve each moment while it is passing.
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Mr．Tilsons．
Mr．Itabhamis．
1． A ．
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Mr．Kellowsts．
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$\therefore . \therefore$ ．
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Mr．Bantr＇s．

米

0UR first summer vacation has ended, and the class of ' 89 has returned to College to commence her Sophomore year full of zeal and energy and ready for hard work; and we now take pleasure in sending to the "Index" our second communication.

The first era of our college life has passed, and will be remembered by us as a period full of enjoyment, and one by which we have been much benefited, and which has proven to our college mates that we are an industrious class.

We have made excellent progress in our studies, devoting much of our valuable time last year to the studies of botany and agriculture, in the last of which we have made astonishing progress (?).

Our declamations have been noted as (scarcely) marvels of oratorical power, and two of our number expect to astonish the natives next June.

In class sports and games we have often left the "campus" bearing the flag of victory, and have taught the Juniors that we are expert baseball players, and the Freshmen that we are not deficient in foot ball.

Our first class-supper took place on the eventful evening of June io, 1886, and you may be sure we did ample justice to la viande before us. The affair was decided a complete success, and we now look forward to the time when we shall next assemble for a similar gustatory achievement.

We have taken much interest in the Freshies, and hating announced to them one dark night a meeting of the "Owl Club," we proceeded to initiate several of them into the mysteries of that order.

The past, with its victories and defeats, has gone from us like a dream, and let us not revert to it except to draw from the experience it has furnished, guidance for our conduct in the future.

# ＊Foreghman Class＊ 

$\square \cdot 90-$
$\qquad$
OFFICERS．

President．
N．M．Whbтеомb．

Vice－President
J．M．Herrero．

Secretary and Treasurer．
C．II．Jones．

Historian．
E．Gregory．

Captain．
T．S．Felton．

MEMBERS．

Diames．
BARRV：I）．才ग口
Bravać，SAMLEL N．
Cistro．Artiller de Mor．a：s
D1ckにNSoN，DAけt！N゙．
Figltos，Truman S．
Frost，Wihilam I．．．

Greaorsv，Fur．1k
HAskiNs，HENRy D．
Intrkeron，Josi：M．

Lorsive．Jons L．


Mossull，F゙RE：口 W゙

Residences．
Southwick，
Wayland，
$27, N$ ．C．
－••••1I，S．C．
Minas，Brazil，．Tower róom，S．C．
Amberst，．．．．．．6，S．C．
Berlin，．．．．．．．32，N．C．
Bonton，．．．．．．．12，S．C．
＇l＇urner＇s Fialls，．．．．17，N゙．C．
Marblehead，．．．．． $12, \mathrm{~S} . \mathrm{C}$ ．
North Amherst，．．．Mr．Haskins．
Jovellanos，Cuba，．Tower room，S．C．
1）owners Grove，III．．． $6, \mathrm{~S} . \mathrm{C}$ ．
Shrewsbury，．Tower room，s．C．
Amberst，
（1，S．C．
Northampton，
11，S．C．
W゚estminster，．．．．．If，N゙．C．


## * $9 \bigcirc$ 米

IN accordance with the time-honored custom of Freshman historians we begin by complimenting the editors of the "Index," and deprecating our own contribution, pleading, as an excuse for its crudity, our extreme youth and inexperience.

Our class has entered upon its course of study strong in numbers. Two men have already signified their intention of graduating with ' 89 , and are now reciting with that class. Nevertheless we have thirty-three remaining, with prospects of additions to that number in the future.

In athletics we have not been backward in coming forward. When we first came to " Aggie," while yet we were strangers to one another, we defeated the organized band of Sophomores in the annual cane-rush. While we conformed to the custom, we failed to recognize its utility. In the tug-of-war, too, our gallant team completely outpulled the crack wire-pullers of the Sophs.

In the foot-ball game we were vanquished by the Sophomores, not because they were heavier or more muscular than we, but rather on account of a slight superiority given them by the experience which a year of college life gives. However, in our game with the high-school team, our eleven came out victorious by a handsome score. Rumors of "Owl Club" and hazing have so far proven rumors only. As for the epithets, "Fresh" and " green," we have heard them only from the lips of Sophomores. Is not this fact significant?

As a class, 'go has been, hitherto, orderly and law-abiding, and the members have shown their determination to be distinguished as students, rather than as ruffians.

As the crafty Ulysses and the youthful Telemachus were dependent in so great a degree upon Mentor, so the Freshmen are helped and advised by the Juniors.
' 88 has not been remiss in her duty to us, and to the class as a whole, and to the captain in particular, we owe much of the success which has attended us.

## INDEA:

Classmates, we have just entered upon the first of our four years of college life. We are apt to think of four years, in anticipation, as a long time, but it will pass quickly, and as we look back upon it hereafter, weshall wonder at the rapidity with which it has gone. Let us, then, take advantage of every opportunity which comes in our way, so that in future years we may have no occasion to look back with regret upon any misdeed, or any time misspent, or any opportunity neglected.

We have all made good resolutions for our college course. May we have the strength of purpose necessary for carrying out these resolutions. May we so improve our time while in college that when we graduate we may become honest men and useful citizens.



- דhe Vipit to the Bay Gtate Fair.

SHORTLY after the return of the students of the M. A. C. to College, at the commencement of the fall term of ' $\delta 6$, it began to be rumored about that the entire corps was to go to Boston to attend, at the invitation of the Bay State Agricultural Society, the first of a series of exbibitions to be given by that society annually. Facts continued to be scarce in regard to the matter, till, one morning not long before the fair was to be opened, the President made a formal announcement to the effect that we were to go to Boston, and that we should take a certain train on the morning of the 5th of October. On the evening following this announcement, the students held a mass meeting to discuss the question of apparel to be worn by the men. Some said that as military science was an important branch of study here, it seemed well to wear the uniform. Others said that as this was an agricultural college, we had better put some hayseed in our hair, and wear overalls and cowhide boots. The majority did not seem to favor either proposition, so a compromise was effected and the students decided to go clad in the ordinary habiliments of the peaceful citizen.

The morning of the 5 th found us all at the depot, ready to take the early express (?) on the N. L. N. R. R., for the ride to Palmer. The train

## INDEN:

was only fifteen minutes late, so we were satisfied; and after waiting for two people to come from Pelham to take a ride, we started off at a breakneck speed, running as much as twenty-one miles an hour, in order to make up for lost time. The engine was seriously fatigued by the unusual strain, but hopes are entertained of its ultimate recovery. After a ride of less than one hour we arrived at Palmer, where we disembarked, to await the coming of the Boston train. Soon we heard a voice announce the arrival of the accommodation, throughout the length of which we were soon scattered. The passage to Boston was uneventful, and for the most part quiet, although a few fellows in the last car indulged in a little singing for the edification of the other passengers. We announced our arrival at Worcester, by whispering to each other our college yell in stentorian tones.

As soon as the train stopped at Columbus Avenue we all alighted, and proceeded to make a systematic search for the armory of the Boston Cadets, where we were to have our headquarters during our stay in the city. At last some one struck the right trail, the wandering ones were recalled, and the procession wended its weary way to the building. There we found a large hall - partially occupied by about eighty cot beds-where were to repose the tired forms of the students when darkness overcast the earth and the electric lights were blown out. Valises, overcoats, etc., were deposited in places of safety, and the crowd departed to assault a neighboring restaurant, where each imbibed that sustenance for which he had been longing since morning.

At 3 P. m. the battalion re-assembled at the armory for the purpose of receiving instructions from the authorities, and that each cadet might be given the ticket with which to deadhead his way into the exhibition building. Then the corps was dismissed with the injunction that each individual should take good care of himself - not stay out late, etc. - and turn up promptly at nine o'clock the next morning. Before the battalion left Amherst, each cadet had been given a schedule of duties, to be performed each day at stated hours.

At nine o'clock the next day the duties of the day commenced, and the various classes, under the guidance and paternal care of the several professors, examined with great interest and open mouth the various diyisions of the exhibition. The fruit department was especially attractive,-the (sour) grapes and things there located awakening a wish in the minds of some of the fellows that the juicy products of nature were in a place as remote from civilization as the vineyard on the hill at M. A. C., or that the darkness of night might enshroud them for a few moments from the gaze of the observing multitude. A band of wind-jammers strained sweet music from the tortuous mazes of their instruments at one end of this hall.

When the day's work was over, most of the students started down town. In the evening many of them took in the theater, where they had a real lovely time, you know. It is to be hoped that they did not go out between

## INDEX.

the acts to see a man, but it would beer nimpossibility to say whether they did or not. Some visited the dime museums, where they gazed with astonishment upon the objects and objections on exhibition. Many wandered about the streets, dazzled by the glare of the electric light, till called to their senses by the echoing of the midnight chimes through the squares and byways of the city. Then, with a nice perception of locality, they set out in exactly the wrong direction to find the barracks, and continued wandering till informed of their error by some lucky circumstance. Once at the barracks, they proceeded to retire for a quiet night's rest. But alas! it could not be had. No sooner had the tired cadet begun to doze, when down upon his phiz came the pillow of his neighbor with a dull "cickinn" thud. This treatment naturally aroused his belligerency, and for the next few minutes there is a white mist of pillows, feathers, bedclothes, etc., obscuring that portion of the hall. Finally quiet is restored,- the referee declares the setto a draw and pockets the stakes, -whereupon the whole community indulges in a free difference of opinion. That ceases, and all is, for a time, so quiet that you might hear a cannon-ball drop. Then some one essays to sing : instantly the sound is smothered, as its owner is buried under a mattress. Soon one of the beds gets up on its white wings and commences to walk off to a remote corner of the hall. A careful inspection reveals the presence (underneath the bed) of a pair of legs, presumably the motive power. The engineer of this apparatus evidently designs to find quieter quarters. And so the circus continues till morning, when the cadets rise refreshed from their dreamless slumbers, ready to commence the work of the day.

This sort of thing continues to the end of the story. The return trip to Amherst is a repetition of the other ride, except that it is a little more vociferous, so to speak. The next day the routine of college duties recommences, and the students compose themselves for work during the rest of the term. The affair is voted a success, and the hope is expressed that a similar one may occur some time in the not-too-distant future.


CONTEMPLATION.


## The Revised Courge of कtudy at the M.e.e.

THE time once was when the possession of a college diploma secured for its owner a position which afforded a livelihood; but that time has passed. The world no longer asks of a young man, Where did you graduate? but simply, What can you do? Nor is the world satisfied with a mere verbal reply to this query-it demands deeds, not words. What are you? What have you done? These are the questions which must be answered satisfactorily by any young man before he can be trusted with affairs of importance.

The university has its place as an institution for the increase of the world's stock of knowledge ; but for the practical purposes of life knowledge must not be the end, but the instrument. Without attempting to rival the universities, or even the classical colleges, the trustees and faculty of the Massachusetts Agricultural College have endeavored to revise the course of study so that at a moderate expense of time and money the young men of the State, who choose to avail themselves of the opportunity, may secure a practical education that will fit them for efficient service in their own sphere of life.

The one object aimed at is to give the student the mastery of himself and of his environment. The principle is that he should study things themselves, rather than descriptions of things found on the printed page or sketched by the hand of the artist. The things of which knowledge is sought at first hand are the mineral, the vegetable, and the animal kingdoms, natural forces, and the laws which control them. The earth itself is studied-its rocks, its physical features, its soils, its pastures and forests, its fields and gardens, - studied by means of the student's own senses, not by committing to memory what some one else has learned, or imagined that he has learned, and has writtens in a book. He uses his own eyes, ears, and hands. In the same way he studies the plants that grow up out of the ground before his eyes - plants that he himself has raised from the seed in field, and garden, and hot-house. He knows the plant from germcell to fruit, for he has himself seen it with his own eyes. Thus does he

## INDEA.

study animal life from the insect to the leader of the herd. He knows the animals which are man's allies, and those forms of life which are the enemy of human endeavor.

Then for himself does he gain familiarity with the physical forces which dominate the world. Heat, light, electricity, gravitation, chemical affinity, display themselves daily before his eyes, trained to scientific observation, and are made daily subject to his personal will. He knows how to master these, and he knows also how these servants, if they are defied, crush with omnipotent power and remorseless energy any one who ignores their true nature. He learns constantly by experience that the laws of nature and material things are so related that those relations may be expressed in mathematical formulæ. To retain and utilize his discoveries he studies mathematics, and records what he has learned.

To make the best use of his knowledge, he finds that he must communicate it to others; so he draws a picture of the insect, the flower, or the house, and that he may do it well, he studies drawing. But the picture needs explanation, so he learns to write good, plain English; and that he may do it thoroughly, he studies rhetoric. But he finds that his ideas, if they are new, are disputed; he therefore practices debating, so that he may dare stand up before men and defend his opinions. To do this well he studies English literature to see how other men have expressed their ideas. He finds a knowledge of words necessary; he studies Latin and French enough to comprehend, and so fix the more tenaciously in mind that large vocabulary of English words, scientific and technical, that come to us from the Latin and through the French.

But the more he learns of things in this manner, the more does he become conscious of his power over nature. He finds himself not a mere atom of the universe, but an individual person, capable of knowing and controlling nature. But can he control himself? Why are his fingers stiff and his eyes weak, and his ears dull? Why does his brain refuse to work, and his stomach rebel? Here military drill, and the study of physiology and psychology help him. Four years in uniform do wonders for the boy of fifteen or sixteen. The discipline straightens his shoulders, expands his chest, gives him a manly bearing, and teaches practically two very important lessons, attention and obedience, thus fitting him to be a leader and commander of men. Physiology teaches him how to take care of his body, and psychology how to understand, develop, and use to the best advantage his own mind. Thus does he grow in self-knowledge and selfmastery, and so does he fit himself to be master of circumstances and master of men.

But there are in this world such things as trade and politics, both of which have much to do with material things and the individual man: hence to succeed the student needs to know something of political economy and of constitutional history, that he may adjust himself to the social
system as well as to the physical system. This knowledge is gained during Senior year.

Finally, there is a sphere of morals as well as of nature. The moral law is a factor-a very essential factor-that must be considered in its relation to natural law, if success is to be assured. This age demands not only smart men, but honest ones - men who can be depended on in a crisis to resist bribery, dishonor, injustice; to remain faithful unto death, whether his hand be on the lever of the locomotive, the wheel of the steamship, or the helm of State. It is not improper, therefore, that the best book of morals should be read daily in the room adjoining the chemical laboratory, and that the gospel should be preached in the library building, which is at the same time the chapel, whose spire points heavenward from the midst of gardens, fertile fields, and a smiling landscape.

## INDEA:

## $\therefore$ Oln Ode :

Dedicated with all Respect to the Alumni.

THERE was a farmer had two sons, The legs of each were bandy; Josephus' hair was raven black, Bohunkus', somewhat sandy.

Now these two boys they went to school, As all good little boys do;
Josephus' favorite dish was mush, Bohunkus', oyster stew.

Now these two boys to "Aggie" came, As might have been expected; Josephus' forte was English Lit., Bohunkus', Trig. selected.

Now these two boys as Freshmen were
Too fresh for one to tell;
Josephus, he was treated rough, Bohunkus not so well.

Now these two boys in Sophomore year Were rough and rude and haughty; Josephus hazed the Freshmen some, Bohunkus, too, was naughty.

Now these two boys as Juniors were
Far famed as 'cycle riders;
Josephus let his moustache grow,
Bohunkus raised some siders.

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Now these two boys at last attained
A Senior's envied station;
Josephus' theme was "Eggs and Cheese,"
Bohunkus', "Education."

Now these two boys, as is supposed, Had good success in life;
Josephus was a bachelor,
Bohunkus had no wife.

Now these two boys they died right old,
Their love of good was real;
Josephus lived an upright life,
Bohunkus, he shunned Sheol.



Aleph Chapter, 1869, D. G. K.
Corporation, 1886.

## SENIORS.

A. L. de Almeida.
T. F. B. Meehan.
E. N. Barrett.
Wm. H. Caldwell.
Thomas Rice.
F. da S. Torelly.
C. L. Marshall.

JUNIORS.
H. C. Bliss.
E. E. Knapp.
Yataro Mishima. F. F. Noyes.

SOPHOMORES.
G. W. Alger.
C. S. Crocker.
C. E. Bliss.
Y. Okam.
A. D. Copeland.

FRESHMEN.
A. de M. e Castro. Jose M. Herrero.
J. S. Loring.
L. C. Stillings.
W. E. Taft.

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'88.


## ㅊ.2. 『. 『. K

AMHERST CHAPTER. Founded in 1869.

## SENIORS.

H. N. W. Rideout.
C. H. Watson.
E. R. Flint.

JUNIORS.
G. E. Newman. .
-
SOPHOMORES.
I. Alger.
W. R. Colcord.
J. R. Blair.
M. N. North.

FRESHMEN.
D. N. Dickerson.
H. D. Haskins.
C. H. Jones.
A. C. McCloud.
B. Thayer.
F. H. Plumb.
A. N. Stowe.
E. N. Stratton.
F. N. Taylor.
G. A. Goddard.


* Phi Jiģma Kạppa. :

Pr Chapter.

SENIORS.
W. N. Tolman.
E. F. Richardson.
JUNIORS.
W. A. Parsons.
E. J. Dole.
G. W. Cutler.
F. S. Cooley.

SOPHOMORES.
G. A. Adams.
'W. A. Kellogg.
R. P. Sellew.
S. N. Braman.
J. T. Hutchings.
F. R. Huse.
F. W. Davis.

## FRESHMEN.

G. Pearson.

## 马ample Pa̧e from Index Editor's Diary.

Mar. 17. Jerry had a shave.
Freshmen paid Prex $\$ 40.00$ for the privilege of stacking Prof. Warner's room.
". i8. Pearson says that the little house on wheels there, near the Experiment Station, is a queer place to keep chickens.
" 19. Prof. W. sends the middle of an ellipse to be folded about infinity. Expected back about 1900 A. D.
May 7. Sellew eats potato gravy on his pudding.
Prof. W.: "These problems are not difficult, but they are hard."
" 10. Bliss says that " the water lily is an herb with aquatic juice."
" 12. Prof. M. to Mr. Shimer: "Mr. S., what is another word for expansion?" S: "Contraction, sir."
" 13. Foster goes a fishing. Comes home suffishiently satisfied that there is no use.
" 14. Prex commences haying.
" 15. Freshmen bolt on Sammy.
Student to Prof. W.: "I have blown for the last half-hour on this MgO, but cannot succeed in reducing it." Prof.: "Oh well, I knew you would not do it; but I thought I would let you keep on blowing awhile."
" 20. Prof. W-n says: "If the gentlemen are tired they may leave the room."
Fire Department.-Laboratory, headquarters. Prof. W., Chief Engineer, and Electric Bouncer, firing sudden and erratic: "Mr. L. you may leave the room, and don't you come back."
The Second Division in surveying, to know how to find the area of a hash-house pie.-Prof. W.: "Well, well, but suppose you are always going up the hill?"

May 2o. Scrub Artillery Drill.- Prex acting as No. i, with sponge staff in one hand and a lantern in the other. Shimer, No. 2 , standing guard over the linch-pin of one wheel. Watson standing guard over another linch-pin, but in making an about-face, loses sight of the linch-pin forever. Chorus of unnecessary remarks from outside parties. But then, they got the feed.
" 27. Professors all mad about something. Prof. W.: "You had the best railroad curve under me, when you fell down stairs the other morning."
Lieut. S.: "Be careful, boys, not to let that trail fall on to you, or you will very quickly become a burnt sacrifice."
" 29. Freshmen all broken up. Just home from a tear. (Mountain day.)
Prof. W., to students: "Gentlemen, the time was up, but I do not call it a fair bolt, because you passed me on the stairs." "Cooley was the false prophet and he had a few followers."



CHAETONOTUS LARUS EHR., magnified 750 diameters. I, as seen from above; 2 , as seen upon the side, without the side spines.

- Notes on Chaetonotus laras Etro.

sOME years ago I made a careful study of the microscopic forms occurring in the fresh-water streams, ponds, and other sources of watersupply in and about Orono, Me. Among the animals observed was Chaetonotus larus Ehr., which occurred in considerable abundance, and which appears to be equally abundant in the streams and ponds about Amberst.

The descriptions and figures of this animal, given by Ehrenberg, Dujardin, and in the Micrographic Dictionary, are superficial and unsatisfactory. To gain a more complete insight into the structure of this animal, I spent some time in the study of its a natomy and habits.

Chactonotus larus is very common in the fine debris over the bottom of ponds, streams, and springs, as well as in decomposing vegetable matters in watering-troughs and in cisterns which have no filters. I have found it at all seasons of the year, even in midwinter, in springs which are frozen over.

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These animals are about one two hundred and twenty-fifth of an inch long, oblong, rounded above, somewhat enlarged posteriorly, and armed on their upper surface with spines curving backward, those on the posterior part being the largest. The under surface is flat, and without spines, but with four longitudinal bands of cilia. Upon the head are four colorless eyes, or what appear to be eyes, and also four clusters of long, fine hairs starting out near the eyes, but a little below them. These appear to be tactile organs, as they keep them in constant motion, apparently feeling around as they move about slowly among the débris. The posterior end of the animal is bifid, ending in two tapering caudal appendages, which are quite flexible, each being composed of two segments, and with the tips slightly expanded into a disk.

In the basal portion of each caudal appendage is a gland, with a duct leading from it, and opening at the end of the appendage in the center of the disk. From the movements of the animal I conclude that the disk serves as a sucker, and also that the secretion from this gland is adhesive in its nature ; for, except when swimming, they stick the caudal appendages to any convenient object and hold themselves in place, or swing themselves to one side or the other, as they may desire.

The mouth opens on the under side, close to the anterior part of the body, through a more or less hardened ring, and the œsophagus passes up vertically about one third of the distance from the mouth to the top of the head, where it turns sharply up and back at an angle of about $45^{\circ}$ for about the same distance, when it turns again and runs horizontally toward the posterior end for about one third the length of the animal, when it expands into an œesophageal bulb. This opens into a straiglit intestine, which runs through to the anus between the caudal appendages. The œsophagus is surrounded by a thick, dense, muscular tissue of circular fibers, and the intestine is surrounded by a layer of large nucleated cells, outside of which is another layer of much smaller ones, which are more difficult to make out. Directly above the cesophagus is a globular body or cavity, but I cannot conjecture what its functions are.

In the median line, above the intestine, is situated the ovary, in which is developed but one egg at a time. This egg is very large as compared with the size of the animal itself. The nucleus is plainly visible even before the discharge of the egg from the ovary. The oviduct is easily traced to the outlet immediately above the anus.

I have watched the development of the eggs many times; and the young, when nearly ready to hatch, are of the same form and structure as the adult, but doubled up within the shell. I have also seen all sizes, from those just hatched up to the adult ; and though for want of assistance I have never been able to trace the entire development of one individual through, I have no doubt that these animals are never parasitic, and that they do not pass through any alternation of generations.

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It is exceedingly curious and interesting to see, under the microscope, with what facility they use the caudal appendages,-sticking them to the glass slide or cover in such a manner that, by careful focusing, one can see the sucker-like action of the tips of these organs while they sway about one way and the other in the water. At the same time the bands of cilia on the under side are in constant motion causing a current of water to pass along by the mouth, bringing their food in suspension, which they readily secure. Suddenly they let go from the slide, and the action of the cilia causes them to move rapidly through the water till they reach some new feeding-ground, where they again anchor themselves and fish for another meal. If a rotifer, or any other moving body, happens to touch even the very extremities of the tactile hairs on their heads, they instantly retreat, and shoot off in some other direction.

To enable me to make out the digestive tract more clearly, I fed some on very finely powdered indigo and others on carmine; but it was not a success, for they do not take to that sort of food kindly. I saw only one Chaetonotus take in a particle of the indigo, which readily and quickly passed along the œsophagus to the bulb, when it at once appeared to become conscious of having eaten some nauseating substance. It at once let go its hold with the caudal appendages, the action of the cilia ceased, and the Chaetonotus gradually doubled up a little, and then with a spasmodic effort it attempted to throw up the particle of indigo. A reverse peristaltic action of the muscles of the œesophagus took place, which was plainly visible, sending the particle up about two thirds of the distance to the mouth, when the action ceased, and the indigo gradually went back into the bulb. This was repeated several times, after which all action ceased, and the animal died without a further struggle.

For the purpose of making a more careful study with higher powers of the microscope than I could use while they were moving about so actively, I put a little cyanide of potash under the edge of the cover, and this, quickly dissolving and diffusing through the water on the slide, very soon killed them, and I was then able to make a more critical examination of their structure.

Although these animals abound in the ponds from which we obtain our water supply, we need have no hesitation in using it, since the above studies show that these singular-looking animals are not parasitic at any stage of their existence, and can do no possible harm.

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* Grinds :

IF YOU HAVE TEARS, PREPARE TO SHED THEM NOW.

Freshman? ${ }^{\text {Po }}$ Juniors.- "Say, any of you kids got any secondhand books to sell?"

Sellew.-- "Does farm produce include calves and little pigs?"
Brooks.- "But this wouldn't hold true if the quadrilateral had five sides, would it?"

Lieut. Sage (speaking of H --s). "That fellow has more gall than a quartermaster's jackass."

The Junior Drill.-" Mortar-fication."
The Sophomore Drill.-_ Canon-ical."
During the heavy rain-storm of October 15th, a Freshman was heard to say that " this must be the economical!"

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Lieut. Sage.- "Gentlemen, you fire like the Grand Army."
First Freshman to second, one fine summer evening.- "I guess I'll go to bed."

Second F. to First.-" What time is it?"
First F.- "Half-past seven."
SECOND F.- "O well, what makes you go so early? I shan't go for most an hour yet."

Castro.- "O Jose, Jose, get up; it is raining white!"
SENIOR (whose stomach has been a little unsteady during the trip down the harbor, says as they land): "I am glad to get back on terra-cotta again."

For ninety days only, as a special inducement to those wishing to purchase tickets to the M. A. C. Lecture Course, we will give with each ticket sold an authentic autograph of the Hon. J. Clarke Osterhout.

Lecture Committee.
On nights when the Owl Club holds its sessions, some Freshmen hold it a great comfort to be able to Stowe themselves out of sight under some Senior's bed.

Woodbury.- " What I don't know about drill, don't amount to much."
It is unlucky to whisper in Prof. Fernald's room, or to cut drill on Tuesday.

Prof. T-R-N.- "Mr. Shimer, where is the sternum?"
Mr. Shimer.-"Sternum? Well, I think that must be in rear.
The sentiment of a great orator as Bliss declaims it: " Give me peace, or give me death."

Prex to Freshman.- "Why were you late to chapel this morning?"
Fresh.-" Because the bell stopped ringing before I got there."
Prof. W-L-R to Mr. Knapp.- "What is the denouement of a story ?"
Mr. K.—" What!!!"
Prof.- "Yes; it is the climax, or event of the story."
F. W. D-v-s. - A chip of the old (chestnut) block.

S-I-r.- Leva me lone; I'm a-gettin' there long a'ready.
Why not establish another branch of Adams Express Company at Northampton?

We are sorry not to be able to print this year a full catalogue of books in the College library, to supplement the concise and extensive arrangement of departments published by our esteemed predecessor of last year.

## INDEA.

## Watson.-

## Chaos umpire sits,

And by decision, more embroils the fray By which he reigns.

Paradise Lost, Book II. gog.
$\mathrm{B}-\mathrm{Ks} .-\mathrm{An}$ animated, irresponsible interrogation point.
Call at room IS, S. C., and be mesmerized. Cost you nothing. All right, ain't you? Persons go into the third stage at their own responsibility. Send for the doctor; you can't help it! All right!


#  Of New york and Vicinity. 

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Henry Francis Hubbard, '78.
John Ashburton Cutter, M.D., 'sz.

SECRETARY AND TREASURER.
John Ashburton, M.D., '82. 1730 Broadzay, New York.


'89.

- ROR-SEGEG

SOMETES.

- Colleģe \$hakesperean Club.

Organized Sept. 20, 1879.
$\qquad$

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Y. Mishima.
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A. M. Nourse.

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A. L. Miles.

FRESHMEN.
A. N. Stowe.
F. J. Smith.
T. P. Felton.
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## - M. \&. C. Boaraliņ̧ Club.

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Secretary and Treasurer.
L. F. Kinney.

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J. E. Holt.
. F. Noyes
B. L. Hartwell.
T. P. Felton.

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Know-All-and-End-All.
J. C. Osterhout.

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R. P. Sellew.

Psychologist to the Realm.
C. L. Marshall.

Safety-Valve.
W. E. Chase.

Excellent High Guardian of the Gilded Cup.
A. I. Hayward.

## - epredatory Incident.

1
ISTEN, my children, and you shall hear Of the midnight raid, so strange and queer, Devised, projected, and carried through By the Freshman class, and the Juniors, too, On one dark night in the spring of last year.

Professor Warner had often explained, By lips or chalk, from his rostrum stained, With his hand aloft on the noble front Of a massive brow, with many a grunt, Once, if sufficient, or twice if need be, X and Y being given, how to find Z , To the Freshman class that to Amherst came down From every Bay State village and town, Attracted thither by Aggie's renown.

So, for petty reasons and childish causes, Fired by a love of Juniors' applauses, All this class, with perhaps an exception, Spurred on by the Juniors' art and deception, Accepted a plan of a Juniors' conception, Designed to bother, to tease, and to vex (Fearless of faculty, fearless of Prex) Him who instructs us in friction and statics, And all other branches of mathematics.

A listener, but he remains incog., Concealed by the darkness, and shielded by fog, By chance returning from rambles nocturnal, Saw them execute the plot infernal;
And for reasons well known and specific, Delivered the details to your poet prolific.

As gathering darkness closed over the earth, Sounds are heard as of suppressed mirth; Each Freshman hies him straight to his room, And lights from the windows through darkness loom.

Botany and algebra seem heavy as lead,
And thoughts of them straightway he thrusts from his head,
And at half-past eight betakes him to bed:
He betakes him to bed, but not to dream,
For his thoughts are fixed on his daring scheme;
And the possible punishment, too, is a theme
Which anon through his head all unheeded may gleam.
Thus he waits and listens with eager ears, Until, in the silence around him, he hears The signal on which agreement was made For undertaking the nocturnal raid.
They muster their men at the chapel door, Some in rubber-boots, in "sneakers" more, And, with stealthy tread, the young recruits Enter the hallway as still as mutes. They pass the door of the chapel room, And, in the fearful darkness and gloom, By the wooden stairs, with stealthy tread, They climb to the lecture-room overhead. They startle the mice from their nightly feast Of "crumbs of learning," and from the beasts Start back, as if from shades of Profs. deceased. Each frightened Freshman feels increased The stiffiness of his locks well greased;
Nor is their terror ought decreased, Till one, a skeptic as to ghosts, Exclaims, "'Tis but mice, or rats, at most!"

Then straightway they began the work;
Though many wished to, none dared shirk.
Now there are in Prof's room, as each one knows, Of desks and chairs a half-dozen rows, Each fastened by screws to the wooden floor, Each desk by eight, each chair by four.
With screw-driver, case-knife, the "ear" of a pail,
With chisel and hoop-iron, and e'en with thumb-nail, Each well-tightened screw they seek to pull out,
And toss them carelessly round about.
And if, by chance, a screw is capricious, Refusing to yield to Freshman malicious, He seizes the desk, and with haste expeditious, Either pulls the screws from out of the floor, Or, as happened in one case, if not more,

The cast-iron standards are broken asunder, And Freshie surveys, in well-feigned wonder, What he afterward called a "confounded blunder!"

The gloom of night o'erspread the land, So thick that one could not see his hand Before his face. With such tools as I have told, And hands benumbed by chill and cold, So that they them could scarcely hold, In such darkness as of old The gnomes were said to weld and mould Silver ingots and bars of gold, The Freshmen labor. But these are not so bold As to dare a lantern to unfold.

And when the seats are torn from the floor, Each Freshman seizes one or more, And bears them down the wooden stairs As quickly and speedily as he dares; For caution, you know, is one of the cares Which every rioter in his mind bears. They then divide, and take their departure Toward hash-house, vineyard, ravine, and pasture:
The temple, the campus, and the sorghum-mill, And every conceivable place they fill, From the placid Thames to Rubicon's rill.
No hedge, no ditch, no apple-tree, But has its desk, or two, or three; No stump, no hole, no woodchuck's lair, But has at least a single chair:
And, by thorn, or limb, or splinter barred, Full many a desk was rudely marred, And night's dampness caused to tarnish The brilliant surface of the varnish.

The task is done, the work complete, And every Freshman deems it meet To retire to bed, his head replete With dire forebodings as to his feat. 'Twas twelve by Eighty-Seven's clock, Whose glaring blackness seems to mock The passer-by from out its tower of rock, As the band of Freshman vandals Began this greatest of college scandals. Long ere the gang had accomplished its deed, Morning's second hour on the watch-face they read.

You know the rest - you've heard the tale:
The Sophs and Seniors jeer and rail;
The Freshmen groan without avail;
The Juniors their protegès bewail;
For soon as comes the morning light, Unearthed is the prank of the preceding night;
And, without delay, the powers that be, Cause to be collected from hill and lea
The scattered furniture. And soon
The mechanics come, and by noon
All is adjusted as before, -
The Freshmen forced Prof. Warner's door.
The Faculty meet, Prex Jim in the chair.
Ye gods! What words were spoken there!
"An outrage!" "Shameful!" "How did they dare?"
Prof. Warner says, "I don't care ;
The injury to me I can easily bear."
But the rest of the Faculty all declare,
"The authors of this deed we cannot spare;
For forty dollars we'll call it square.
And if this fine they will not pay
By a certain hour of a certain day
(Which day and hour we will soon say),
Then, forsooth, shall their course be ended, -
Or at least the ringleaders shall be suspended."
The chagrined Freshmen to the sentence listen, And salt, briny tears in many an eye glisten.
In solemn conclave then they meet,
To see if they cannot beat
Down the Faculty, - in fact
A generous compromise effect.
With this end an embassy they send,
Hoping that Prex his ear will lend
If half the sum demanded
To him with penitence be handed.
But in vain! The authorities stand firm;
'Tis vain for the Freshmen to squeal and squirm.
The "horrid Juniors" they roundly cuss
For getting them into such a fuss:
And ever since they paid that fine,
No class has been steadier than ' 89 .

'90:


## $\therefore$ Military :

BATTALION ORGANIZATION.

COMMANDANT AND INSTRUCTOR.
Ist Lieut. Geo. E. SAGE, 5th Art. U. S. A., Prof. Military Science and Tactics.

COMMISSIONED STAFF.
First Lieutenant and Adjutant, . . . J. M. Marsif.
First Lieutenant and Quartermaster, . H. M. Rideout.

NON-COMMISSIONED STAFF.
Sergeant-Major, . . . . . . . . . B. L. Shimer.
Quartermaster-Sergeant, . . . . . E. H. Dickenson.

COMPANY A.
Captain, . . . . . . . . . . . E. W. Barretr.
First Lieuteñant, . . . . . . . . J. C. Osterhout.
Second Lieutenant, . . . . . . . C. L. Marshall.
First Sergeant, . . . . . . . . . G. W. Cutler.
Duty Sergeant, . . . . . . . . . A. I. Hayward.
Corporal, . . . . . . . . . . . F. H. Noyes.

## COMPANY B.

Captain, . . . . . . . . . . . T. F. B. Meehan.
First Lieutenant, . . . . . . . . . . A. L. Almeida.
Second Lieutenant, . . . . . . . . . E. F. Richardson.
First Sergeant, . . . . . . . . . . G. F. Newman.
Duty Sergeant, . . . . . . . . . . . F. H. Foster.
Corporal, . . . . . . . . . . . S. H. Field.

## ARTILLERY DRILLS.

## LIGHT B $\Lambda$ TTEERY.

Assistant Instructors, . . . . . Cadets of Senior Class. Cannoniers, . Cadets of Junior and Sophomore Classes.

## SABRE DRILLS.

Assistant Instructors, . . . Cadets of Senior Class. Detachments, . Cadets of Junior and Sophomore Classes.

## MORTAR DRILLS.

Assistant Instructors, . . . Cadets of Senior Class. Cannoniers, . Cadets of Junior and Sophomore Classes.

APPOINTMENTS.
Staff and Commissioned Officers are selected from the Senior Class.
Non-Commissioned Staff and Sergeants are selected from the Junior Class.

Corporals are selected from Junior and Sophomore Classes.
All members of the Senior Class are required to act as instructors at the various drills, and as such, are subject to regular details.
+

## INDEAI.

- Mijeliegareous.
- Opgaqnizgerions.
- Wew

-Foot-Ball flfgociation.


## OFFICERS.

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A. L. Almeida.

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W. E. Chase.

Treasurer.
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B. Hartwell.
E. J. Dole.
A. Nourse.

## AGGIE ELEVEN.

Rushers.
E. J. Dole.
G. W. Cutler.
B. Hartwell.
F. F. Noyes.
E. F. Richardson.
B. L. Shimer.
E. W. Barrett.

Quarter-Back.
I. Alger.

Half-Backs.
C. H. Watson, Capt.

Full-Back.
J. Herrero.

Substitutes,
R. Moore.
J. E. Holt.
' 87.
Rushers.
Fisherdick.
Carpenter.
Marshall.
Chase.
Quarter-Back.
Meehan.
Half-Backs.
Watson.

Dole.
Foster.
Holt.

Shimer.
A. L. Almeida.
G. E. Newman.

Howe.
Tolman. Richardson.

Almeida, Capt.
Full-Back.
Fowler.
'88.
Captain.
F. F. Noyes.

Rushers.

Cutler.
Quarter-Back.
KNAPP.
Half-Backs.

Full-Back.
Belden.

Newman.
Cooley.
Noyes.

## Moore.

## INDEX.

'89

Captain.
Hutchings.

Rushers

Kellogg.
Crocker.
Sellew.

Adams.

Woodbury.
Nourse.
Simonds.
Jones.
Quarter-Back.
Adams.
Half-Backs.
Herrero.

Whitcomb.
Barry.
Felton.

McCloud.

Full-Back.
KNAPP.


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F. H. Fowler.
C. E. Bliss.
G. E. Newman.
J. M. Herrero.

## AGGIE NINE.

C. H. WATSON, Captain, s. s.
C. E. Bliss, c.
I. Alger, p.
F. F. Noyes, i b.
A. N. Stowe, r. f.
G. F. Richardson, 2 b.
E. J. Dole, c. f.
G. E. Newman, 3 b.
F. H. Fowler, l. f.

## INDEX.

## CLASS NINES.

'87.

> C. H. WATSON, Captain, s. s.
H. N. W. Rideout, p.
C. S. Howe, 3 b.
T. B. F. Meehan, c.
J. M. Marsh, r. f.
F. H. Fowler, i b.
C. W. Fisherdick, c. f.
E. F. Richardson, 2 b.
A. L. Almeida, l. f.
'88.
F. F. NOYES, Captain, c.
G. E. Newman, p.
B. L. Shimer, s. s.
E. J. Dole, i b.
J. E. Holt, 2 b.
F. H. Foster, l. f.
F. S. Cooley, 3 b.
E. M. Belden, c. f.
G. W. Cutler; r. f.
'89.
I. ALGER, Captain, p.
C. E. Bliss, c.
J. T. Hutchings, s. s.
G. A. Adams, ib.
B. L. Hartwell, l. f.
F. R. Huse, 2 b.
C. S. Crocker, c. f.
W. A. Kellogg, 3 b.
A. D. Copeland, r. f.
'90.
D. DICKINSON, Captain, p.
A. McCloun, c.
A. Stowe, i b.
G. Pearson, 2 b.
L. Stillings, 3 b.
C. Jones, Substitute.
E. Gregory, s. s.
F. Plumb, 1. f.
H. Russell, c. f.
J. Herrero, r. f.
J. West, Umpire.


- M. \&. C. Lawn бenniৎ effoociation.

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'87.
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C. Watson.
J. Marsh.
E. Richardson.

## INDEX

'88.
G. Cutler.
E. Dole.
B. L. Shimer.
F. Foster.
H. C. Bliss.
E. Knapp.
G. Newman.
'89.
I. Alger.
C. E. Bliss.
A. Copeland.
W. Colcokd.

Winners of Championships in Spring Tournament.

## WINNER OF COLLEGE CHAMPIONSHIP.

'86.
R. Mackintosh.
'87.
'88.
'89.
A. Almeida.
G. Cutler.
C. Bliss.


COLLEGE CHOIR.
Organist.
G. W. Cutler.
F. Brooks, ist Tenor.
F. H. Foster, 2 d Tenor.
B. Hartwell, ad Tenor.
J. M. Marsh, ad Base.

Adams, 2d Base.
J. Holt, ist Base.

## AGGIE GLEE CLUB.

T. Felton, ist Tenor.
L. Stillings, ad Tenor.
Y. Mishima, Vox Humana.

McCloud, ist Base.
C. Jones, Basso Profundo.
W. R. Colcord, Short Stop.

## ORCHESTRA.

Cornet.
F. Noyes.
J. Maynard.
S. Braman.

Harmonica.
E. J. Dole.
C. Bliss.
H. Bliss.

> F. Foster.
> Flute.

> G. Goddard.
L. Kinney.

Guitar.
J. Herrero.

Base-drum.
F. R. Huse.

## - Collȩ̧e Roeadiņ̂-.Room •

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Directors.
J. Marsh, '87.
A. D. Copeland, ' 89 .

Secretary and Treasurer.
H. C. Bliss, ' 88.
R. B. Moore, ' 88.
J. B. Loring, 'go.

NEWSPAPERS AND PERIODICALS.

## DAILIES.

Boston Herald.
Boston Journal.

New York Graphic.
Springfield Republican.
New York Herald.

## MAGAZINES.

Harper's Magazine.
Century.
The Forum.
North American Review. Outing.
Nineteenth Century.

## COLLEGE.

Yale Record.
Williams Literary Monthly.

Harvard Crimson.
Amherst Student.

## AGRICULTURAL.

| American Agriculturalist. | The Farmer's Review. |
| :--- | :--- |
| New England Farmer. | Nebraska Farmer. |
| National Live Stock Journal. | The Connecticut Farmer. |
| Massachusetts Ploughman. | American Gardener. |
| Breeder's Gazette. Colorado Farmer. <br> The Grange Home. New England Homestead. <br> Gazette and Courier. Holstein Friesian Register. <br>  American Cultivator. |  |

## RELIGIOUS.

Congregationalist.
The Christian Register. The New Church Messenger.

## MISCELLANEOUS.

| Puck. | Forest and Stream. |
| :--- | :--- |
| Burlington Hawkeye. | Rural New Yorker. |
| Youth's Companion. | Detroit Free Press. |
| The Judge. | Woman's Journal. |
| Scientific American and Supplement. | Lester's Illinois Weekly. |
| Harper's Weekly. | The Country Gentleman. |
| Golden Days. | Chicago Tribune. |
| Amherst Record. | The Nation. |
| The Amherst Literary Monthly. |  |



- Rifle Clab.

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W. Chase.

Vice-President.
T. Carpenter.

Directors.
Lieut. G. E. Sage.
W. Kellogg.
$\qquad$
MEMBERS.

## SENIORS.

W. Chase.
F. Carpenter.
C. Marshall.
J. Marsh.
W. Tolman.
E. Richardson.
A. Almeida.

JUNIORS.
G. Cutler.
E. Dole.

SOPHOMORES.
F. Huse.
W. Kellogg.
R. Sellew.
W. Colcord.


## - ¿ibrary Readiņ̧-Room.

American Florist. Orchard and Garden.

Bulletin of the Torrey Botanical Club. Botanical Gazette.

Horticultural Art Gazette.
Revue Horticole.
Popular Science Monthly.
Quarterly Microscopical Journal.
American Veterinary Review.
Bee Journal.
The Cultivator and Country Gentleman.
National Live Stock Journal.
Southern Cultivator.
Sheep Breeder's Journal.
Quarterly Journal of Economics.
Journal of the Chemical Soc. (London).
Journal of the Royal Agricultural Society (London).
Journal of Speculative Philosophy. Guernsey Breeder and Milk Journal.
Ministrie de l'agriculture-Bulletin.
Journal of Agriculture, Quebec.
Journal of Comparative Medicine and Surgery.

Garden (London).
American Naturalist.
Entomologea Americana. Nature.
Science.
The Hog.
Scientific American.
Breeder's Gazette.
Dairy World.
Work and Wages.
Popular Science News. Contemporary Review. Holstein Friesian Register. Swine Breeder's Journal. The Poultry Monthly. Canadian Horticulturalist. Agricultural Science. Political Science Monthly. Comptes Rendus.

- Winnerg of Kendall eprizes, $1886 \cdot$

SOPHOMORES.
A. Hayward.
B. Shimer.
FRESHMEN.
B. Hartwell.
W. Kellogg.

## INDEA.

## - Incidents by the Way.

Jan. 5.-Winter term commences.
" 13 .-Dr. Gardner lectures upon Veterinary Science.
" 2f.-Ex-President Stockbridge lectures upon "A Ride Through Wonderland."
" 29.- ' 88 bolts from the Lieut's recitation.
Feb. 2.- Committees from the Legislature upon Military, Agriculture and Education visit the College.
" io.-Prof. Koons, of the Storrs Agricultural School, lectures upon Deep Sea Dredging.
" 15.-'87 Index appears.
" 16 .-Desks and seats belonging to the Mathematical department are found scattered over hill and dale.
" 17.-Rev. Dr. Angier lectures upon "Enthusiasm."
" 24.-Lecture upon the Eastern Question, by Dr. Hamlin, formerly President of Robert's College.
Mar. 9.- Colonel Clark, President of M. A. C. 1868 to 1879 , died at his residence in Amherst.
" 26.-Winter term closes.
APR. 6.-Spring term commences, with thirty-four students present.
" 7.-Drawing for rooms in the new dormitory.
"، 28.- Base-ball, ' 87 vs. ' 89 ; score, 15 to I3.
May 22.-- Base-ball, ' 86 and ' 88 vs. ' 87 and 89 ; score, 17 to 15 .
June 4.-Prex gets a new suit.
" 5.-Base-ball, 'S8 vs. 'S9; score, 7 to 14 .
" 20.-Commencement. Baccalaureate sermon and dedication of the new chapel in the forenoon. Address before C. C. U. in the evening.
" 2I.-Public examination of the graduating class in Agriculture, for the Grinnell prizes, at I. 30 P. m.
Commencement drills at 3 P . m.
Farnsworth prize speaking at 8 P . m.

June 22.-Graduating exercises at ro A. m. Addresses by Gov. Robinson and others.
" 24.-Examination of candidates for admission to the College, in the Botanic Museum, at 9 A. m.
Sept. 8.-Fall term commences. Freshmen class enters with thirty-four men, two of whom soon become Sophomores.
" 9.-Two cane rushes in the forenoon; the first won by '90; the second stopped by Prex.
" 20.—Rope-pull, 'S9 vs. '9o; won by 'go.
‘: 29.-Foot-ball, ' 88 vs. '9o; won by ' 88 , score, 30 to o.
Ост. I.- Foot-ball, 'S8 vs. '89; won by '87, score, 32 to 4.
" 13.-Foot-ball, Aggie vs. Amherst; won by Amherst, 15 to 5 .
" 20.-Foot-ball, Aggie vs. Williston; won by Aggie, 7 to 6 .
" 22.-Foot-ball, 'S9 vs. 'go; won by '89, score, 34 to o.
" 26.-George W. Cable lectures upon "Evangeline's Cousins in Louisiana."

Nov. 3.-Amherst, 'go vs. Aggie, 'go, foot-ball; won by Amherst, 6 to 4 .
" 8.-Aggie vs. Tufts, foot-ball; won by Aggie, 6 to 5 .
"، io.- Foot-ball, 'go vs. High School; won by 'go, 34 to o.
" 24. Thanksgiving recess commences.
" 30.-Thanksgiving recess closes.
" 13.-Foot-ball, '88 vs. 'S7 and the referee; score, o to o.
Dec. 6.-Davis bought some alcohol.
" 10. Prof. W- $-\mathrm{g}-\mathrm{n}$ sheds his straw hat.
" 17.-Fall term ends.
Jan. 5.-Winter term commences.
" $10 .-W$. H. Bowker, '7I, lectures on "Homeopathy in Agriculture."
" 20.-Hon. John Russell delivers a very pleasant and instructive lecture on the tariff question. Audience delighted.
" 26.-Lecture upon "Richard III. of England," by Hon. James Grinnell of Greenfield.
" 27.-Day of prayer for colleges.

## INDEX.




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## IN MEMORIAM.

## MARSHALL P. WILDER.

Resolved, That in the death of Marshall P. Wilder, this Board of Trustees has met with an irreparable loss, - the loss of a man who gave himself and his means readily, heartily and continuously to the great interests of elevating agricultural labor to be the peer of professional labor in the most pronounced departments of human industry; a man who sought to secure for the people interested in agriculture the highest intellectual training, and to so dignify the labor of the husbandman as to make it attractive to the largest minds by a development not only of its kinship to the highest qualities of man's nature, but by illustrating its immense scope in making necessary gleanings from the entire field of science as essential to a perfect, practical and economic working of the relation of the man to the soil, and that he has erected an imperishable monument in books, in shrubs and flowers, in trees, and in institutions for the benefit and elevation of his fellows, written and wrought by his own mind and hand.

Resolved, That in Marshall P. Wilder we recognize the first American advocate of the Agricultural College, and that by his public and private efforts the foundation was laid which culminated in the National act which, under the leadership of Hon. Justin S. Morrill, brought forth by national legislation the Agricultural College as it now exists in the several States of the Union.

Resolved, That added to his great devotion to the cause of agricultural knowledge and intellectual and practical development, we recognize in him, under all circumstances, whether of triumph or temporary defeat, the earnest statesman, and the true-hearted, generous man who never failed to so recognize humanity, that side by side on the same broad platform of citizenship and manhood, the humblest laborer was elevated and made an equal as he listened in the field or the lecture-room to his words of counsel and judgment.

Resolved, That we feel that no language of ours can express the great loss we feel in his demise, and that we tender our heartfelt sympathy to his bereaved family.

Resolved, That a copy of these resolutions be sent to the family of the deceased, and inscribed upon the records of the Trustees of the College.

## IN MEMORIAM.

## WILLIAM KNOWLTON.

Resolved, That in the death of William Knowlton, the Trustees have lost a most efficient worker, and the College a friend who was always ready with his voice and means to contribute to its welfare and development.

Resolved, That in the hearty and cordial support continuously given by our departed associate, we recognize a man who, hampered by disease, and suffering for many years with excessive pain, triumphed over his great physical disabilities in a manly resignation of his public obligations to the sacrifice of his personal ease.

Resolved, That we mourn his loss, and direct the Secretary to forward a copy of these resolutions to the family of the deceased, and insert the same in the records.

## INDEA:

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## INDEX

## - Cȩpicultural aind Horticultural purguits.

## FARMERS.

Aplin, George T., 'S2, East Putney, Vt.
Beach, Charles E., '82, care Beach \& Co., Hartford, Conn.
Blanchard, Wm. H., '74, Westminster, Vt.
Boutwell, Wm. L., '78, Leverett.
Braune, Domingos H., '83, Planter, Nova Friburgo, Province of Rio de Janeiro, Brazil.
Brigham, Arthur A., '78, Marlborough.
Campbell, Frederick G., '75, West Westminster, Vt.
Caswell, Lilley B., '7i (also Civil Engineer), Athol.
Chickering, Darius O., ' 76 , Enfield.
Choate, Edward C., '78, Southborough.
Clark, John W., '72, North Hadley.
Cowles, Homer L., '7 1 , Amherst.
Dickinson, Richard S., '79, Columbus, Neb.
Easterbrook, Isaac H., '72, Abbott Run, R. I
Flagg, Charles O., '72, Abbott Run, R. I.
Goodale, David, 'S2, Marlborough.
Harwood, Peter M., '75, Barre.
Hibbard, Joseph R., '77, Stoughton, Wis.
Hobbs, John A., '74, Bloomington, Neb.
Howe, Elmer D., 'Si, Marlborough.
Howell, Hezekiah, ' $\mathbf{5}_{5}$, Monroe, Orange County, N. Y.
Jones, Elisha A., '84, Logan, Philadelphia Co., Penn.
Lyman, Charles E., '78, Middlefield, Conn.
Montague, Arthur H., '74, South Hadley.
Nourse, Oliver D., '83, Bolton.
Page, Joel B., '7ı, Conway.
Paige, James B., '82, Mellen Valley Fruit Farm, Prescott.
Parker, George A., '76, Superintendent Farwein Farm, Tunis Mills, Md.
Phelps, Henry L., '74, Southampton.

Porto, Raymundo M. da S., '77, Planter, Para, Brazil.
Sears, John M., '76, Ashfield.
Simpson, Henry B., '73, Centreville, Md.
Smith, George P., '79, Sunderland.
Snow, George H., '72, Leominster.
Southwick, Andre A., '75, Supt. Vine Hill and Ridge Farms, care Beach \& Co., Hartford, Conn.
Taylor, Frederick P., 'Si, Athens, East Tenn.
Thurston, Wilbur H., '82, Upton.
Waldron, Hiram E. B., '79, North Rochester.
Whittaker, Arthur, 'SI, Needham.
Williams, John S., 'S2, North Glastonbury, Conn.

## FLORISTS.

Brewer, Charles, '77, 30 Court Street, New York City.
Callender, 'Thomas R., '75, Everett.
Knapp, Walter H., '75, Newtonville.
Parker, George L., ' 76 , Dorchester.
Phelps, Austin, '8i, South Framingham.
Shaw, Elliot D. , '72, Holyoke.
Woodman, Edward E., '74, Danvers.

## NURSERYMEN.

Green, Samuel B., '79, Horticultural Department, Mass. Agricultural College, Amherst.
Hillman, Charles D., '82, Fresno City, Cal.
Minott, Charles W., '83, Ruggles \& Minott, Three Rivers.

## MISCELLANEOUS.

Chandler, Edward P., '74, Wool-grower, Ft. Maginnis, Montana. Hashiguchi, Boonzo, '8ı, Dept. of Commerce and Agriculture, and Pres. Gov. Sugar Beet Co., Tokio, Japan.
Herms, Charles, '84, Stock-breeder, Obannon, Jefferson Co., Ky. Hunt, John F., '78, Market Gardener, Sunderland.
Taylor, Alfred H., 'S2, Dealer in Live Stock, Burnett, Neb. Urner, George P., '76, Sheep-raiser, Sweet Grass, Montana. Wilcox, Henry H., 'Si, Sugar Industry, Nawiliwili, S. I.

## - Profegsional Purpaits.

## INSTRUCTORS.

Bishop, Edgar A., 'S3, Superintendent of Agriculture, Talladega College, Ala.
Bishop, Wm. H., '82, Superintendent of Agricultural Department, Tougaloo Univ., To agaloo, Miss.
Brooks, Wm. P., '75, Professor of Agriculture, Imperial College of Agriculture, Sapporo, Japan.
Carr, Walter F., 'Si, Assistant Professor of Civil Engineering and Physics, Univ. of Minnesota, Minneapolis, Minn.
Cutter, John C., '72, Consulting Physician Sapporo Ken Hospital, and Professor of Physiology and Comparative Anatomy, Imperial College of Agriculture, Sapporo, Japan,
Howe, Charles S., '78, Professor of Mathematics, Buchtel College, Akron, Ohio.
Maynard, Samuel T., '72, Professor of Botany and Horticulture, Mass. Agricultural College, Amherst.
Morse, Wm., 'S2, Assistant Superintendent School for Indigent Boys, Thompson's Island, Boston Harbor.
Penhallow, David F., '73, Professor of Botany and Vegetable "Physiology, McGill Univ., Montreal, Canada.
Rawson, Edward B.. 'Si, Principal of Oakdale School, Lincoln, Loudoun Co., Va.
Stockbridge, Horace E., '78, Professor of Chemistry, Imperial College of Agriculture, Sapporo, Japan.
Stone, Almon H., 'So, Storrs Military Institute, Tarrytown, N. J.
Taft, Levi R., '82, Professor of Horticulture, Missouri Agricultural College, Columbia, Mo.
Taylor, Jr., Isaac N., St. John's Military Academy, Haddonfield, N. J.

Thompson, Edgar E., '7I, Teacher, East Weymouth.
Warner, Clarence D., 'SI, Professor of Mathematics, Mass. Agricultural College, Amherst.
Washburn, John H., '78, Professor of Chemistry, Storrs Agricultural School, Mansfield, Conn.
Wellington, Charles, '73, Assistant Professor of Chemistry, Mass. Agricultural College, Amherst.

## CLERGYMEN.

Dyer, Edward N., '72, Pastor Native Church, Kohala, S. I.
Grover, Richard B., '72, Ludlow, Vt.
Hague, Henry, '75, Rector St. Matthews, South Worcester.
Renshaw, James B., '73, Plainview, Minn.

## CIVIL ENGINEERS.

Bowman, Charles A., '8I, Billerica.
Cowles, Frank C., '72, City Engineer's Office, Worcester.
Ellsworth, Emory A., '7ı, $16+$ High Street, Holyoke, City Engineer.
Lee, William G., 'So, Draughtsman, City Engineer's office, Holyoke.
Nichols, Lewis A., '7r, Danvers.
Parker, Henry F., '77, 5 Beekman Street, New York City.
Richmond, Samuel H., '7x, Higley, Orange Co., Florida.
Thompson, Samuel C., '72, 46th Street and 3d Arenue, N. Y. City. Tucker, George H., '7ı, Fargo, Dak.
Wheeler, William, '7I, Chief Engineer North Conway \& Mt. Kearsarge R. R., 70 Kilby Street, Boston.

## LAWYERS.

Chandler, Everett S., '82, 415 Court Street, Beatrice, Neb.
Holmes, Lemuel LeB., '72, Mattapoisett.
Leonard, George, '7I, Springfield.
Lyman, Robert W., '71, Belchertown.
Macleod, William A., '76, Patent Lawyer, 60 Devonshire Street, Boston.
Potter, William S., ${ }^{7} 7$, Rice \& Potter, Lafayette, Ind.
Rudolph, Charles, '79, Mitchell, Dak.
Webb, James H., '73, Alling \& Webb, 69 Church Street, New Haven, Conn.

## PHYSICIANS AND SURGEONS.

Baker, David E, ' 78 , Newton Lower Falls.
Benedict, John M., '74, Commercial Block, 77 Bank Street, Waterbury, Conn.
Hall, Josiah N., '78, Sterling, Weld Co., Col.

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Mackie, George, '72, Attleborough.
Mills, George W., '73, Medford.
Root, Joseph E., '76, 72 Pearl Street, Hartford, Conn.
Smith, Hiram F. M., '8ı, 68 Summer Street, Worcester.
Swan, Roscoe W., '79, 32 Pleasant Street, Worcester.
Tuckerman, Frederick, ' 78 , Lecturer, Agricultural College, Amherst.
Wakefield, Albert T., '73, 3 Oi Main St., Peoria, Ill.
Wetmore, Howard G., '76, 4I West Ninth Street, New York City, N. Y.

## VETERINARY SURGEONS.

Allen, Francis S., '82, Student Medical Department of Univ. of New York, I35 West 4 ist Street, New York City, N. Y.
Bunker, Madison, '75, Newton.
Osgood, Frederick H., '78 (M. R. C. V. S.), 238 Pine Street, Springfield.
Peters, Austin, '8i (M. R. C. V. S.), Veterinarian to Massachusetts Society for Promoting Agriculture, Office, 25 Adams Building, Court Street, Boston.
Sherman, Walter A., '79, i85 Central Street, Lowell.
Winchester, John F., '75, Lawrence.

## CHEMISTS.

Allen, Edwin W., '85, Assistant Chemist State Experiment Station, Amherst.
Bell, Burleigh C., '72, corner 16 th and Howard Streets, San Francisco, Cal.
Benson, David H., '77, Analytical and Consulting Chemist, and Superintendent of Chemical Works, Bradley Fertilizer Co., North Weymouth.
Bragg, Everett B., '75, Glidden \& Curtis, Tremont Bank Building, Boston.
Dodge, George R., '75, Superintendent of Bowker Fertilizer Co., Brighton.
Fairfield, Frank H., 'Si, Standard Fertilizer Co., 30 Kilby Street, Boston.
Hills, Joseph L., '8i, Phosphate Mining Co. (limited), Beaufort, South Carolina.

Kendall, Hiram, '76, Superintendent and Chemist, Kendall Manufacturing Co., Providence, R. I.
Lindsey, Joseph B., 'S3, Chemical Agent, L. B. Darling Fertilizer Co., Pawtucket, R. I.
Myrick, Lockwood, ' 78 , Cotton Exchange Building, Boston.
Plumb, Charles S., '82, Assistant Director New York Agricultural Experiment Station, Geneva, N. Y.
Preston, Charles H., '83, with State Analyst, 16i Tremont Street, Boston.
Shiverick, Asa F., 'S2, Pacific Guano Co., Charleston, S. C.
Smith, Llewellyn, 'S4, Assistant Chemist State Agricultural Experiment Station, Amherst.
Stone, Winthrop E., Assistant Chemist State Agricultura! Experiment Station, Amherst.
Wheeler, Homer J., '83, Assistant Chemist State Agricultural Experiment Station, Amherst.

## JOURNALISTS.

Chapin, Henry E., '8I, Assistant Editor "American Garden," Greenfield.
Coburn, Charles F., ' 78 , Editor " Daily Citizen," Lowell.
Libby, Edgar H. , '74, Editor "Our Country Home," Greenfield.
Myrick, Herbert, '82, Agricultural Editor "New England Homestead," Springfield.
Williams, John E., '76, Editor " Amherst Record," Amherst.
Woodbury, Rufus P., '78, News and Telegraph Editor "Kansas City Daily Times," Kansas City, Mo.

## STUDENTS.

Allen, Francis, '82 (D. V. S.), Medical Department Univ. of City of New York, 135 West 4 ist Street.
Barber, George H., '85, 313 West 47 th Street, College of Physicians and Surgeons, New York City, N. Y.
Cutter, John A., 'S2, Albany Medical College, 213 West 34th Street. New York City.
Goldthwait, Joel E., '85, Harvard Medical School, Boston.
Leary, Lewis C., '85, Harvard Divinity School.
Phelps, Charles S., '85, Post-Graduate M. A. C., Amherst.

## MISCELLANEOUS.

Clark, Xenos Y., '78, Scientist, Amherst.
Fowler, Alvan L., 'So, Superintendent Woronoco Mining Company, Tombstone, Arizona.
Gladwin, Frederic E., 'So, Assayer, Woronoco Mining Company, 38 California Street, San Francisco, Cal.
Kinney, Burton A., 'S2, Signal Corps U. S. A., Portland, Me.
McConnel, Charles W., '76, Dentist, i7o Tremont Street, Boston.
Perkins, Dana E., '82, care C. M. Winchell, U. S. Survey Boat
"Tennessee," Mississippi River Commission.
Smead, Edwin B., '7I, Manager Watkinson Juvenile Asylum Farm School, Hartford, Conn.
Whitney, William C., '72, Architect, Minneapolis, Minn.

INDEN.

## -Businegs Pupguitg.

## INSURANCE.

Allen, Gideon H., '7ı, Winfield, Cowley County, Kansas.
Hevia, Alfred A., '83, 21 Cortland Street, New York City, N. Y.
Parker, William C., 'So, 28 School Street, Boston.

## MANUFACTURERS.

Barri, John A., '75, National Fertilizer Co., Water Street and Fairfield Avenue, Bridgeport, Conn.
Bingham, Eugene P., '82, Chemicals, ${ }^{1} 77$ Webster Street, East Boston.
Birnie, William P., '71, Birnie Paper Co., Springfield.
Bowker, William H., '7I, 43 Chatham Street, Boston, President Bowker Fertilizer Co.
Eldred, Frederick C., '73, 128 Chambers Street, New York City, N. Y., Carriages.

Foot, Sanford D., ${ }^{7}$ 'S, ıо Chambers Street, New York City, N. Y., Files.
Guild, George W., '76, 17 and 19 Cornhill, Boston, Wire.
Holman, Samuel M., Jr., 'S3, Attleborough, Steam Saw-mill.
Mann, George H., ' 76 , Sharon, Cotton Duck.
Minor, John B., '73, New Britain, Conn., Paper Boxes.
Otis, Harry P., '75, Leeds, Emery Wheels.
Phelps, Charles H., '76, 42 Elizabeth Street, New York City, N. Y., Chairs.

Smith, Thomas E., '76, West Chesterfield.

## DRUGGISTS.

Bell, Burleigh C., '72, 16th and Howard Streets, San Francisco, Cal.
Deuel, Charles F., '76, Amherst.
Lyman, Asahel H., '73, Manistee, Mich.

## MERCHANTS.

Bellamy, John, '76, 659 Washington Street, Boston, Hardware and Cutlery.
Boynton, Charles E., '8I, 50 Water Street, Haverhill, Novelty Store.
Fiske, Edward R., '72, 625 Chestnut Street, Philadelphia, Pa.
Koch, Henry G. H., '78, 6th Avenue and 20th Street, New York City, N. Y.
Lee, Lauren K., '75, Valley Springs, Dak., Grain and Flaxseed. Livermore, Russell W., '72, Pates, Robeson Có., North Carolina.
Martin, William E., '76, Excelsior, Mich., Groceries.
Miles, George M., '75, Miles City, Montana.
Morey, Herbert E., '72, 49 Haverhill Street, Boston, Crockery.
Salisbury, Frank B., '72, Kimberly Diamond Fields, South Africa, Trader.
Sparrow, Lewis A., '71, i9 South Market Street, Boston, Dealer in Fertilizers.
Tekirian, Benoni, ${ }^{8} 85$, Broadway, New York City, Dealer in Turkish Goods.
Ware, Willard C., '71, 225 Middle Street, Portland, Me., Clothing.
Whitney, Frank LeP., '7I, Westminster Street, Providence, R. I., Oil Stoves.
Wilder, John E., '82, 179 Lake Street, Chicago, Ill., Dealer in Leather.

## CLERKS.

Brett, William F., '72, R. H. White \& Co., Boston.
Brown, Charles W., '85, Salem.
Brodt, Harry S., 'S2, Rawlins, Wyoming Territory.
Clark, Atherton, '77, 13I Tremont Street, Boston.
Cooper, James W., Jr., '82, East Bridgewater.
Fisher, Jabez F., '7I, Freight Cashier Fitchburg R. R. Co.
Holland, Harry D., ' $\mathrm{B}_{\boldsymbol{+}}$, Amherst.

## INDEX:

Howe, George D., '82, C. D. Dickinson \& Son, North Iladley.
Hubbard, Henry F., '78, 94 Front Street, New York City, N. Y.
Kimball, Francis E., '72, 15 Union Street, Worcester.
Nye, George E., '77, G. F. Swift \& Co., Chicago, Ill., Book-keeper.
Wyman, Joseph, '77, 52-60 Blackstone Street, Boston, Book-keeper.

## PUBLISHERS.

Carruth, Herbert S. ('75) 'S5, Clarke \& Carruth, 340 Washington Street, Boston.
McQueen, Charles M., 'So, 92 and 93 Commercial Bank Building, Chicago, President of Progressive Publishing Co.
Porter, William H., '76, 36 Bromfield Street, Boston.

## MISCELLANEOUS.

Atkins, Wm. H., Little Silver, N. J.
Ateshian, O. H., Merchant, Boston.
Ayers, W., Cleveland, Ohio.
Bagley, Sydney C., '83, 35 Lynde Street, Boston.
Bagley, David A., ' 76 .
Barrett, Joseph F., '75, 84 Broad Street, New York City, Traveling Salesman Bowker Fertilizer Co.
Bassett, Andrew L., '7I, Transfer Agent, New York City, N. Y.
Carpenter, D. F., Millington, Mass.
Clapp, C. W., Montague, Mass.
Damon, Samuel C., '82, Lancaster.
Duncan, R. F., Student at Albany Medical College, N. Y.
Eaton, W. A., Nyack-on-the-Hudson, N. Y.
Felt, C. F. W., Civil Engineer, Fredonia, Kansas.
Flint, Charles L., Jr., '8ı, Boston, Dole \& Flint, Stock Brokers, 7 Exchange Place.
Fuller, George E., ${ }^{\circ} \mathrm{I}$.
Hawley, Joseph M., '76, Berlin, Wis., C. A. Mather \& Co., Banker.
Hitchcock, Daniel G., '74, Warren, Mass., now in Florida.
Howard, Joseph H., '82, Minnesela, Butte Co., Dak.
Howe, Waldo V., '77, Newburyport.
Kingman, Moris B., '82, Amherst, Mass.
Ladd, Thomas H., '76, care Wm. Dadmun, Watertown.
Leland, Walter S., '73, Concord, Officer Massachusetts Reformıatory.

Lovell, Charles O., '78, Northampton, Photographer.
Mackingtosh, R. B., Dedham, Mass.
May, Frederic G., '82, Orlando, Orange Co., Florida, Contractor.
Norcross, Arthur D., '7I, Monson, Postmaster.
Peabody, William R., '72, Atchison, Kan., A., T. \& S. F. R. R., General Agent.
Rice, Frank H., '75, Hawthorne, Nev., County Recorder.
Ripley, George A., 'So, 387 Main Street, Worcester.
Russell, William D., '7I, Turner's Falls, Montague Paper Co.
Sanborn, K., Post-office Lawrence, Mass.
Smith, Frank S., '74, Hampden.
Somers, Frederick M., '72, Leopold \& Cohn, Broker, New York City, N. Y.
Spaulding, Abel W., ‘8r, No. 2 I 1 th St., South Minneapolis, Minn. Spofford, Amos L., '78, Georgetown, Shoe-cutter.
Strickland, George P., '7I, Stillwater, Minn., Machinist.
Stone, G. S., Mountainville, N. Y.
Taft, Cyrus, '76, Whitinsville, Machinist.
Warner, Seth S., '73, 43 Chatham St., Boston, Traveling Salesman Bowker Fertilizer Co.
Wells, Henry, '72, 105 North 3d St., St. Louis, Mo.
Windsor, Joseph L., '82, Private Secretary to C. B. Holmes, 2020 State St., Chicago, Ill.
Wood, Frank W., '73.
Zeller, Harry McK., '74, Hagerstown, Md., B. \& O. Telegraph Co., Manager Commercial Office.

## DECEASED.

Clay, Jabez W., '75, October 1, 1880, of pneumonia, at New York City.
Curtis, Wolfred F., '74, November 8, 1878, of inflammation of brain, at Westminster.
Floyd, Charles W., 'S2, October 10, 1883, of consumption, at Dorchester.
Hawley, Frank W., '71, October 28, 1883, of apoplexy, at Belchertown.
Herrick, Frederick St. C., '71, January 19, r884, at Methuen.
Lyman, Henry, '74, January 8, 1879, of pneumonia, at Middlefield, Conn.
Morse, James H., '71, June 21, i883, of Bright's disease, at Salem.
Southmayd, John E., '77, December 11, 1878, of consumption, at Minneapolis, Minn.
INDEA.

- Calendar.

1887. 

Winter Term begins
Jan. 5, at 8.15 A. M.
Winter Term closes
Mar. 25, at $10.30 \mathrm{~A} . \mathrm{m}$.
Summer Term begins
April 5, at 8.15 A. м.
Summer Term closes June 23 .
1888.

Fall Term begins
Sept. 7, at 8.15 A. m.
Fall Term closes
Dec. 16, at io. 30 A . m.

## INDEX:



T() HE editors would advise the students to patronize, so far as is possible, those who advertise in the Index.


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## M. E. MESSENGER, PIOP.

he Bay State Fair, held in Boston, October $5^{\text {th }}$ to $9^{\text {th, was the }}$ largest of its class ever held in this country. The only butter that scored 100 points, and was marked by Prof. H. E. Alvord, Superintendent of the Dairy Department, "PERFECTION," was made by the COOLEY PROCESS, by Alfred Rodman, Dedham, Mass., whose butter brings eighty cents per pound in the Boston market.

The Creamery or Factory Tub Butter scoring the most points, viz., 97 , was made by the Shelburne Falls (Mass.) Co-Operative Creamery.

The Creamery Butter scoring the second number of points, viz., 96, was made by the Windsor (Conn.) Co-Operative Creamery. Both of these factories are conducted on the Cooley Process of Cream Gathering.

The Judges were Prof. L. B. Arnold, than whom there is no greater dairy authority in this country or Europe, and Mr. Edward Norton, the oldest and most experienced creamery manager in New England.

We submit these facts to intelligent dairymen, and invite their closest scrutiny; also to the following facts, viz., that

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